

A Supervised Approach for Detection of Singleton Spam Reviews

Authors : Atefeh Heydari, Mohammadali Tavakoli, Naomie Salim

Abstract : In recent years, we have witnessed that online reviews are the most important source of customers' opinion. They are progressively more used by individuals and organisations to make purchase and business decisions. Unfortunately, for the reason of profit or fame, frauds produce deceptive reviews to hoodwink potential customers. Their activities mislead not only potential customers to make appropriate purchasing decisions and organisations to reshape their business, but also opinion mining techniques by preventing them from reaching accurate results. Spam reviews could be divided into two main groups, i.e. multiple and singleton spam reviews. Detecting a singleton spam review that is the only review written by a user ID is extremely challenging due to lack of clue for detection purposes. Singleton spam reviews are very harmful and various features and proofs used in multiple spam reviews detection are not applicable in this case. Current research aims to propose a novel supervised technique to detect singleton spam reviews. To achieve this, various features are proposed in this study and are to be combined with the most appropriate features extracted from literature and employed in a classifier. In order to compare the performance of different classifiers, SVM and naive Bayes classification algorithms were used for model building. The results revealed that SVM was more accurate than naive Bayes and our proposed technique is capable to detect singleton spam reviews effectively.

Keywords : classification algorithms, Naïve Bayes, opinion review spam detection, singleton review spam detection, support vector machine

Conference Title : ICDMA 2016 : International Conference on Data Mining and Applications

Conference Location : Melbourne, Australia

Conference Dates : February 04-05, 2016